

# PRODUCT STANDARD **PS3-66**

## **TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Skived Tape**

**A RECORDED VOLUNTARY  
STANDARD OF THE TRADE**



**U.S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS**

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## **U.S. DEPARTMENT OF COMMERCE**

**John T. Connor, Secretary**

### **NATIONAL BUREAU OF STANDARDS**

**A. V. Astin, Director**

#### **Office of Engineering Standards Services**

### **EFFECTIVE DATE**

Having been passed through the regular procedures of the Office of Commodity Standards (now the Office of Engineering Standards Services, National Bureau of Standards) and approved by the acceptors hereinafter listed, this Product Standard is issued by the National Bureau of Standards, effective September 1, 1966.

A. V. ASTIN, *Director*.

### **PRODUCT STANDARDS**

Product Standards are developed by manufacturers, distributors, and users in cooperation with the Office of Engineering Standards Services of the National Bureau of Standards. The purpose of a Product Standard may be either (1) to establish standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; or (2) to establish quality criteria, standard methods of test, rating, certification, and labeling of manufactured products.

The adoption and use of a Product Standard is voluntary. However, when reference to a Product Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

Product Standards originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Office of Engineering Standards Services the necessary data to be used as the basis for developing a standard of practice. The Office by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the Office assures continuous servicing of each Product Standard through review and revision whenever, in the opinion of the industry, changing conditions warrant such action.

# TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Skived Tape

Effective date: September 1, 1966

## 1. PURPOSE

1.1 The purpose of this Product Standard is to establish a national standard of quality for the information and guidance of producers, distributors, and users; to promote understanding between buyers and sellers; to provide a basis for fair competition among producers; to give the consumer confidence in the quality of the product, and to provide means for identifying tape made from polytetrafluoroethylene (referred to herein as TFE-fluorocarbon resin or TFE tape) in conformance with this standard.

## 2. SCOPE AND CLASSIFICATION

2.1 **Scope.**—This standard establishes requirements and methods of test for the material, dimensions, workmanship, and the physical and electrical properties of three grades of skived tape manufactured entirely of TFE-fluorocarbon resin in accordance with good commercial practice (see Appendix A1). The materials covered range in thickness from 0.002 inch to 0.125 inch, and are normally manufactured by skiving.<sup>1</sup>

2.2 **Classification.**—This standard covers three grades of TFE-fluorocarbon resin tapes which may be selected for applications requiring specific properties. The grades of tape shall be as follows:

- Grade A—A premium grade tape normally used for exacting electrical, mechanical, or chemical applications.
- Grade B—A general purpose grade suitable for normal electrical, mechanical, or chemical uses.
- Grade C—A noncritical grade useful in many noncritical applications where chemical resistance or anti-stick characteristics are required, but where mechanical or electrical characteristics are not involved.

## 3. REQUIREMENTS

3.1 **Material.**—The tape covered by this standard shall be made from unpigmented TFE-fluorocarbon resin.

### 3.2 Dimensions and tolerances.

3.2.1 **Size.**—The length and width of the roll, including tolerances, shall be designated in the contract or purchase order.

3.2.2 **Thickness.**—The thickness tolerances for tape in specified widths shall be as shown in Table 1. Measurements shall be made in accordance with Method A of ASTM Designation D374-57T,

<sup>1</sup> Skiving is the process of shaving a film on a lathe from the outer surface of a molded cylindrical tube of TFE-fluorocarbon resin.

# Tentative Method of Test for Thickness of Solid Electrical Insulation.<sup>2</sup>

TABLE 1.—Thickness tolerances for skived tape

Thickness	Width of tape	Tolerance
<i>Inch</i>	<i>Inches</i>	<i>Inch</i>
0.002 -0.003.....	2 to 12.....	+0.0005,-0.0003
.0035- .005.....	2 to 12.....	± .0005
.006 - .015.....	2 to 12.....	± .0010
.016 - .040.....	2 to 12.....	± .0015
.041 - .061.....	2 to 12.....	± .0020
.062 - .125.....	2 to 12.....	± .005

**3.3 Mechanical and electrical requirements.**—The tape covered by this standard shall meet the mechanical and electrical requirements specified in Table 2 and 3.3.1 and 3.3.2, when tested by the methods given in Section 4.

TABLE 2.—Mechanical and electrical requirements for skived tape

Grade	Tensile strength <sup>1</sup> (min. aver.)	Elongation <sup>1</sup> (min. aver)	Specific gravity <sup>2</sup>
	<i>psi</i>	<i>Percent</i>	
A (5 mils and over).....	4000	300	2.14-2.21
A (under 5 mils).....	3600	270	2.14-2.21
B.....	2800	200	2.14-2.20
C.....	1500	100	2.14 min.

<sup>1</sup> Tape ¼ inch or wider. See 4.3.3.  
<sup>2</sup> See 4.3.2.

**3.3.1 Dielectric strength.**—The value for the dielectric strength of a specified thickness of Grade A and Grade B skived tape shall be determined in accordance with the following formulas:<sup>3</sup>

(1) Grade A

$$S = 1000 \sqrt{\frac{20}{t}}$$

(2) Grade B

$$S = 840 \sqrt{\frac{20}{t}}$$

where

S = dielectric strength in volts  
per mil (min. average)  
t = tape thickness in mils.

Conformance of the grade of tape to the required value for dielectric strength shall be determined in accordance with 4.3.4.

**3.3.2 Melting point.**—The melting point for all grades of skived tape shall be 327° C±10° C when tested in accordance with 4.3.1.

<sup>2</sup> Later issues of ASTM publications may be used providing the requirements are equivalent to those specified in the issue designated. Copies of ASTM publications are obtainable from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19108.  
<sup>3</sup> The formulas given for dielectric strength are empirically derived and are provided in order to permit computations for any thickness of tape.

**3.4 Electrical flaws.**—The number of permissible electrical flaws and the method of test for their determination shall be as agreed upon by the purchaser and supplier. The electrical flaws can be determined by measurement of the number of electrical breaks on a strip of tape pulled through rollers and exposed to a high voltage probe. A test method which has given satisfactory results is described in Appendix B. Other apparatus capable of producing a comparable spark or electrical breakthrough when a pinhole or void is found in the tape may also be used.

#### **4. TEST METHODS**

**4.1 Sampling.**—The required number of samples shall be selected at random from each shipment of materials. In all cases, the average value of the indicated number of specimens shall be used to determine conformance with the detailed requirements.

**4.2 Conditioning test specimens and test conditions.**—For those tests where conditioning is required, the test specimens shall be conditioned in accordance with Procedure A of ASTM Designation D618-61, Standard Method of Conditioning Plastics and Electrical Insulating Materials for Testing,<sup>2</sup> for a period of at least 4 hours prior to test. If the test material has been exposed to temperatures below 20° C within 24 hours prior to test, the conditioning shall be for at least 24 hours. Tests shall be conducted at the standard laboratory temperature of 23° C  $\pm$  1° C. Since TFE-fluorocarbon resin materials generally do not absorb water, the maintenance of constant humidity during the testing is not considered important.

#### **4.3 Tests.**

**4.3.1 Melting point.**—The melting point shall be determined on one specimen in accordance with ASTM Designation D1457-62T, Tentative Specification for Tetrafluoroethylene Resin Molding and Extrusion Materials.<sup>2</sup>

**4.3.2 Specific gravity.**—The specific gravity shall be determined on two specimens in accordance with Method A of ASTM Designation D792-64T, Tentative Methods of Test for Specific Gravity of Plastics.<sup>2</sup> Two drops of a wetting agent<sup>4</sup> (liquid detergent) shall be added to the water in order to reduce the surface tension and insure complete wetting of the sample.

**4.3.3 Tensile strength and elongation.**—The ultimate tensile strength and elongation shall be determined in accordance with ASTM Designation D1457-62T,<sup>2</sup> using 5 specimens. The specimens shall be so cut that the long axis of the dumbbell shall be parallel to the skive marks. For tape  $\frac{1}{16}$  inch thick or less, specimens shall be cut to dimensions shown in ASTM D1457-62T, using a hydraulic or mechanical press. Tape greater than  $\frac{1}{16}$  inch in thickness shall be machined to  $\frac{1}{16}$  inch, plus or minus  $\frac{1}{64}$  inch prior to cutting specimens. Tool marks shall be removed by light sanding, parallel to the long dimension of the cut specimen. During the cutting, the specimen shall be backed by a hard surface such as Masonite or equivalent, with a piece of cardboard such as that used in a tabulating machine between the hard surface and the sample.

<sup>4</sup> "Joy", "Glim", or Triton X-100 (Rohm & Haas) have been found satisfactory for the purpose.

NOTE: The best cutting condition is obtained in a mechanical press adjusted for penetration into but not through the cardboard. Particular care must be taken in specimen preparation of thin tapes. Steel rule dies must be inspected frequently for sharpness and freedom from nicks. This is the reason for the lower tensile and elongation values for Grade A skived tape under 5 mils thickness.

**4.3.4 Dielectric strength.**—The short-time test of ASTM Designation D149-64, Standard Methods of Test for Dielectric Breakdown Voltage and Dielectric Strength of Electrical Insulating Materials at Commercial Power Frequencies,<sup>2</sup> shall be used with air as the medium for tapes up to and including 10 mils in thickness. For thicker tapes testing shall be done in oil. Ten specimens shall be used in determining the dielectric strength of each thickness of tape.

## **5. PREPARATION FOR SHIPMENT**

**5.1 Packaging.**—The material shall be packed in standard commercial containers so constructed as to insure acceptance by common or other carriers for safe transportation at the lowest rate to the point of delivery.

**5.2 Marking.**—Shipping containers shall be marked with the name of the material, grade, size and the quantity contained therein, the name of the manufacturer, and the number of the contract or order. Each roll of tape shall be marked to designate grade (see 2.2), lot code and manufacturer. This marking will preferably be on the core.

## **6. IDENTIFICATION**

**6.1 Labels and literature.**—In order that the purchaser may be assured that the TFE tape purchased actually complies with all requirements of this Product Standard, it is recommended that manufacturers include the following statement in conjunction with their name and address on labels, invoices, sales literature, etc.:

This TFE tape complies with all requirements for Grade . . . . , as specified in PS3-66, as developed under the procedures of the Office of Engineering Standards Services, and published by the National Bureau of Standards.

or, more briefly

Conforms to PS3-66, Grade . . . . , published by the National Bureau of Standards.

## **HISTORY OF PROJECT**

In a letter dated August 2, 1960, the Fluorocarbons Division of the Society of the Plastics Industry, Inc., requested the cooperation of the Commodity Standards Division, Office of Technical Services (now Office of Engineering Standards Services, National Bureau of Standards) in the establishment of a Commercial Standard for TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Skived Tape, and submitted as a basis a tentative standard developed by the Skived Tape Task Force of that organization.

The Commodity Standards Division circulated copies of the proposed Commercial Standard to representative producers, dis-

tributors, users, laboratories, and Government agencies for constructive comment. All comments and suggestions received were carefully considered and adjustments were made to the proposal to satisfy the comment wherever practicable. The Recommended Commercial Standard, TS-5664B, was circulated to the trade on June 2, 1965.

On July 27, 1966 the Office of Engineering Standards Services announced that acceptances have been received representing a satisfactory majority of the industry and the Product Standard to be designated PS3-66, would be considered effective beginning September 1, 1966.

Project Manager: D. R. Stevenson, Office of Engineering Standards Services,  
National Bureau of Standards

### STANDING COMMITTEE

The following individuals comprise the membership of the Standing Committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Office of Engineering Standards Services, National Bureau of Standards, U.S. Department of Commerce, which acts as secretary for the committee.

Saul Ricklin, Dixon Corporation, Bristol, R.I. 02809 (Chairman)  
Lester K. Keen, Raybestos-Manhattan, Inc., United States Asbestos Division,  
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1700 Winnetka Avenue, Northfield, Ill. 60094  
Clive Van Orden, United States Testing Co., Inc., 1415 Park Avenue, Ho-  
boken, N.J. 07030

### APPENDIX A

A1—Spots of various colors are inherent in the production and fabrication of all TFE-fluorocarbon materials, and should not be cause for rejection. The material will vary from white to off-white in color.

A2—For some applications such as wire wrapping, the quality of the slitting is important. In such instances a supplemental tensile strength and elongation requirement using ASTM D882-61T, Tentative Methods of Test for Tensile Properties of Thin Plastic Sheeting,<sup>2</sup> in which the specimens are tested as a strip is appropriate. If this method is used values shall be agreed upon between processor and supplier.

A3—The physical and electrical requirements for skived tape listed in Table 2 can be achieved or exceeded by various production methods. The dimensional stability of the tape will vary with the production method and post-treatment. Where maximum dimensional stability is required, this shall be so stated by the purchaser and details as to values and test methods shall be agreed upon between purchaser and supplier.

## APPENDIX B

**B1. Electrical flaws.**—Electrical flaws may be determined by the following high voltage test method which is suitable for the determination of the number of pinholes and voids in thin films used as insulating tapes. The test is applicable only to tape in the thickness range of 0.003 to 0.010 inch and 2 inches or more in width. Holes or voids large enough to be detected by the test are measured along a definite length of tape to evaluate it as an insulating material.

**B1.1. Safety.**—High voltages are used in the test for electrical flaws. The entire apparatus must be mounted inside an enclosure which has its access doors interlocked so that the power to the primary circuits of the equipment is interrupted when an access door is opened. The equipment produces a spark when a pinhole or void is found; therefore, the apparatus must not be used in an atmosphere containing flammable vapors.

**B1.2 Specimen size.**—Variations in thickness along the length of the tape being tested will produce data which will not correlate with other specimens of the same batch of material. A constant voltage stress is applied (which is calculated in volts per mil) based on thickness; therefore, if the thickness varies along the length of the tape, so will the electric stress applied. Control of the width of the specimen is needed so that it will pass through the guides of the equipment without binding or shifting.

**B1.3 Calibration.**—In order to avoid wide variations in the performance of the test equipment, the following calibration method should be used. This method will not give exact calibration, but will bring the equipment into a range which is deemed adequate for the purpose. A 0.005 x 2 inch wide test specimen of TFE skived tape shall be prepared by punching 13 in-line holes with a 0.015 inch diameter pin. The 12 spaces shall be two each at 1,  $\frac{3}{4}$ ,  $\frac{5}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{8}$ , and  $\frac{1}{4}$  inch intervals. The tape shall be placed in the test equipment and the voltage set for 600 volts/mil. Various test runs shall be made varying the testing speed and recording the number of flaws counted at each testing speed. The testing speed at which the equipment counts a minimum of ten flaws and a maximum of 12 flaws is determined. This testing speed will usually be between 7 and 30 ft/min.

**B1.4 Equipment for testing.**—The high voltage test equipment consists of a mechanical device to feed the tape to be tested between the test electrodes at a fixed rate and an electrical device or circuit which will provide a range of test voltages with a controlled current when an arc is produced through a void, and an impulse counter.

**B1.4.1 Mechanical equipment.**—The arrangement of the components of the mechanical equipment of the tape testing device should conform to Figure 1.

(1) The feed reel is mounted on a shaft with a diameter which will accept available standard reels. The shaft upon which the reel is mounted is connected through a slip clutch to a motor of its own, or through a gear train to the capstan drive motor. When the tape is drawn from the reel the slip clutch acts as a drag to maintain tension on the film.

(2) Guide Bar A and Guide Bar B hold the film in contact with

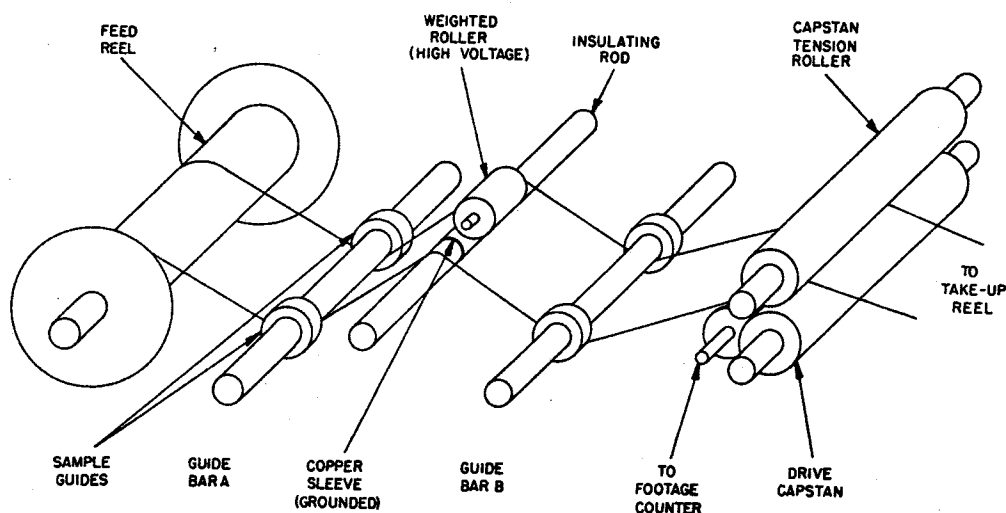


FIGURE 1.—Schematic diagram of mechanical equipment for high voltage test.

the low potential electrode. The low potential electrode consists of a copper sleeve mounted on a rod made of insulating material. The edges of this electrode are rounded to relieve high electric stresses at the edge of the electrode. Contact to the lower electrode is made by a screw or soldered contact on the bottom side of the sleeve. Film guides should be provided on both guide bars to position the tape between the electrodes in a manner that will be reproducible for repeat test voltages. Ordinary machine collars of a size to fit the guide rods with Allen set screws to secure the collars have been found satisfactory. The position of the collars should be adjusted to fit the tape to be tested and secured in that position with set screws.

(3) The high voltage electrode consists of a brass rod  $\frac{3}{4}$  inches in diameter and  $\frac{3}{4}$  inches long with a  $\frac{1}{16}$  inch chamfer on the edges. The electrode is held in a brass yoke with a small brass axle through the yoke and the electrode. Electrical connection is made to the electrode through the brass axle to a contact screw on the yoke. The yoke and electrode assembly are pivoted on a rod which serves as a lever so that the electrode roller becomes its own weight to provide good contact with the sample. The assembly described should be held in place by a support rod made of insulating material with provision made to connect a wire from the high voltage source to the contact screw.

(4) The drive capstan and capstan tension roller control the speed of the tape. The capstan roller should be rubber covered. The roller is driven through a gear train to a reversible synchronous motor. A footage counter should be coupled into the same gear train to provide a continuous count of the number of feet of tape passing between the electrodes. The motor and gear ratio are selected to provide a tape speed which should be determined by the calibration method described in B1.3. A capstan tension roller is needed to increase the friction between the tape and drive capstan. This may be a roller mounted in bearings on lever mounted supports which are spring loaded.

(5) The take-up reel is mounted on a shaft connected to the capstan drive motor, through a slip clutch. The drive rate for

**B1.4.2. Electrical equipment.**—The electrical equipment consists of the components and circuitry described in Figure 2. This equipment is necessary to provide a variable source of voltage to permit any desired voltage to be applied with a variable limiting

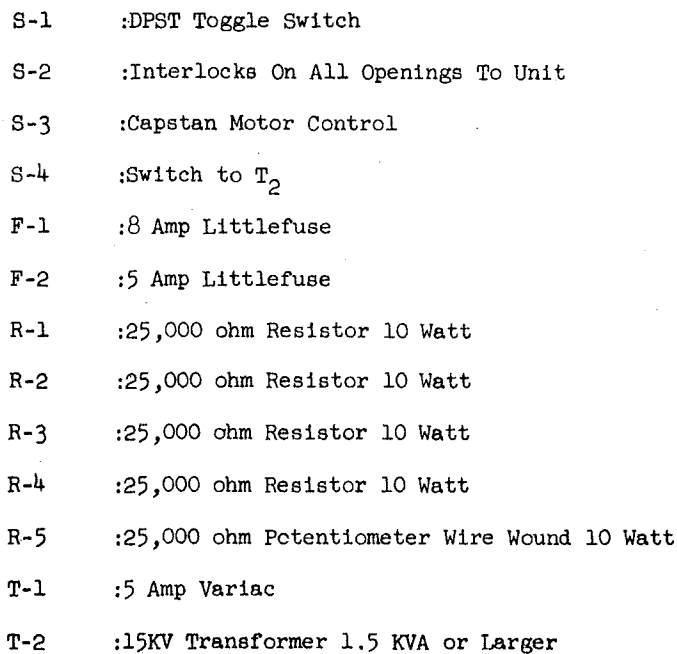


FIGURE 2.—Schematic diagram of the electrical circuit for high voltage test.

resistance so that the short circuit current will not exceed 0.060 amperes.

(1) The power switches are wired as indicated in Figure 2. The main power switch S-1 is used to control power to the entire test set. S-3 controls the motor which drives the capstan roller and reels. When S-3 is closed, S-1 is used to simultaneously apply voltage to the drive motor and high voltage transformer. When S-1 is closed, and S-3 and S-4 are open the auto transformer may be adjusted to set the desired test voltage. To run a test S-4 must be closed.

Each access door must be provided with an interlock switch and these switches wired in series. Interlock switches should be connected between the power line fuse and the power switches so that current is removed from the entire system when any one of the access doors is opened.

(2) The high voltage transformer should be of the self-regulating type with a rated primary potential of 120 v, 60 cycles ac, a rated secondary potential on open circuit of 12,000 volts and a rated secondary current on short circuit of 0.1 amperes. A well regulated transformer is needed to prevent damaging high voltage transients which can be generated when the fault passes under the electrodes. These sharp pulses could produce an additional fault which would not be indicative of a void in the specimen. A transformer with a rating of 1.5 KVA and a turns ratio of 100 to 1 is satisfactory. Care must also be used when selecting a transformer to be sure that the output voltage is a pure sine wave. Gas tube ignition transformers (neon lights) should be avoided unless their wave-form has been checked.

(3) A 5 ampere fuse should be installed between the auto transformer and the high-voltage transformer primarily to protect the windings of the auto transformer against high current demands which could result by incorrectly setting the limiting resistors.

(4) A voltmeter to indicate the secondary voltage should be installed between the auto transformer and the high voltage transformer. Because of the nonlinear scales on ac voltmeters, it may be necessary to use a meter with 2 scales; one scale from 0 to 50 volts and the other from 0 to 100 volts. Most of the time it will be necessary to read 30 volts to give 600 volts per mil on a 5 mil specimen.

(5) A current limiting resistance network should be made by mounting six, 25,000 ohm 10 watt resistors in a semicircle. The junction of each resistance is connected to a pin jack mounted on a piece of insulating board. A connection is made from a pin jack mounted in the center of the semicircle to the high voltage terminal of the high voltage transformer. A short jumper wire with pin plugs is used to select and make contact with the correct amount of limiting resistance. A wire is connected to one end of the limiting resistance series and is in turn connected to the high electrode on the tape tester.

(6) A wire should be brought from the low electrode of the tape tester to a relay coil, the other end of which is grounded along with the other end of the high voltage winding. The contacts on the relay are connected in series with the coil of an im-

pulse counter. This counter circuit is connected across the 110 volt input line between S-1 and the primary of the auto transformer. A flow of current through the relay coil will take place whenever a fault occurs, causing the impulse counter to move one step.

#### **B1.5 Method of test.**

##### **B1.5.1 Sample preparation.**

(1) One specimen should be used for the high voltage test. Trim the specimen of tape at least 30 feet long to a constant width of 2 inches.

(2) Mark a line (using a wax pencil) 2½ feet in from one end. Measure 25 feet of tape and make a second mark with the wax pencil.

(3) With micrometer calipers measure the thickness of the sample in 10 places to the nearest 0.001 inch. Record the average thickness.

##### **B1.5.2 Test procedure.**

(1) Set S-3 and S-4 (Fig. 2) in the off position.

(2) Close S-1 and adjust the auto transformer to the test voltage, equal to the thickness in mils and multiplied by 600.

(3) Open S-1 and adjust the limiting resistors<sup>5</sup> to provide an average current at short circuit of approximately 0.040 amperes.

(4) Turn off main switch and mount the specimen in place as shown in Figure 1.

(5) Set the start line directly under the test electrode.

(6) Set the counter to zero.

(7) Set S-3 and S-4 to the on position.

(8) Set S-1 to the on position, starting the capstan motor and applying voltage to the specimen.

(9) When the 25 foot mark reaches the test electrodes turn off S-1.

(10) Record the reading on the counter as "Holes per 25 feet at 600 volts per mil."

### **ACCEPTORS**

The manufacturers, distributors, users and others listed below have individually indicated in writing their acceptance of this Product Standard prior to its publication. The acceptances indicate an intention to utilize the standard as far as practicable, but reserve the right to depart from it as may be deemed desirable. The list is published to show the extent of recorded public support for the standard and should not be construed as indicating that all products made by the acceptors actually comply with its requirements.

### **PRODUCERS**

Ace Gasket Co., Inc., Mount Vernon, N.Y.  
Allendale Wire & Cable Co., Allendale, N.J.  
Brand-Rex Division American Enka Corp.,  
Willimantic, Conn.  
Cadillac Plastic & Chemical Co., Detroit, Mich.

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Dixon Corp., Bristol, R.I.  
Dodge Fibers Corp., Hoosick Falls, N.Y.  
Dodge-Wasmund Manufacturing, Inc., Pico  
Rivera, Calif.

<sup>5</sup> To calculate the correct value for the limiting resistor setting use the following equation:

$$R = \frac{E}{I}$$

R = Approximate value for the limiting resistance.

E = Applied voltage (multiply the thickness of the sample by 500 to determine the average applied voltage).

I = Approximate current of 0.050 amps.

Dore, John L., Co., Houston, Tex.  
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 Amphenol Controls Division, Amphenol Corp., Janesville, Wis.  
 Bendix Products Aerospace Division, South Bend, Ind.  
 Connecticut Hard Rubber Co., New Haven, Conn.  
 Condenser Products Co., Brooksville, Fla.  
 Chemical Coatings & Engineering Co., Inc., Media, Pa.  
 Canadian Industries Ltd., Montreal, Quebec, Canada  
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 Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.  
 Froehling & Robertson, Inc., Richmond, Va.  
 Greenberg, Samuel, Engineering, American Instrument Co., Silver Spring, Md.  
 General Precision, Inc., Pleasantville, N.Y.  
 General Plastics Corp., Bloomfield, N.J.  
 Hess Goldsmith & Co., Greensboro, N.C.  
 Hitemp Wires Co., a division of Simplex Wire & Cable Co., Westbury, N.Y.  
 Hoke, Inc., Cresskill, N.J.  
 International Pipe & Ceramics Corp., Emmaus, Pa.  
 Instron Corp., Canton, Mass.  
 ICI Ltd., Plastics Division, Welwyn Garden City, Hertfordshire, Eng.  
 ITT Wire & Cable Division, Clinton, Mass.  
 Kaiser Jeep Corp., Toledo, Ohio.  
 Leigh Products, Inc., Coopersville, Mich.  
 Lewis Engineering Co., Naugatuck, Conn.  
 Mather Co., Fluorotec Division, Milan, Mich.  
 Mystik Tape, Inc., Division of the Borden Chemical Co., Northfield, Ill.  
 Minnesota Mining & Manufacturing Co., St. Paul, Minn.  
 Otis Elevator Co., New York, N.Y.  
 PCA Electronics, Inc., Sepulveda, Calif.  
 Pfaudler Co., The, Division of Ritter-Pfaudler Corp., Rochester, N.Y.  
 Plastoid Corp., Hamburg, N.J.  
 Plastic Capacitors, Inc., Chicago, Ill.  
 Resistoflex Corp., Roseland, N.J.  
 Radio Corp. of America, Camden, N.J.  
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 Sandia Corp., Albuquerque, N. Mex.  
 Sparta Manufacturing Co., Division U.S. Ceramic Tile Co., Dover, Ohio.  
 Texas Instruments Inc., Apparatus Division, Dallas, Tex.  
 Thermax Wire Corp., New York, N.Y.  
 Thermatics, Inc., Elm City, N.C.  
 Thiokol Chemical Corp., Panelyte Industrial Division, Trenton, N.J.  
 Wirecraft Products, Inc., West Brookfield, Mass.

## LABORATORIES

California Testing Laboratories, Inc., Los Angeles, Calif.  
 Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
 Southern Testing Laboratories, Inc., Birmingham, Ala.  
 United States Testing Co., Hoboken, N.J.

## FEDERAL GOVERNMENT

Defense, Department of, Rock Island Arsenal Laboratory, Rock Island, Ill.

**ACCEPTANCE OF PRODUCT STANDARD  
PS3-66 TFE-FLUOROCARBON (POLYTETRAFLUOROETHYLENE)  
RESIN SKIVED TAPE**

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this Product Standard.

Date \_\_\_\_\_

Office of Engineering Standards Services  
National Bureau of Standards  
U.S. Department of Commerce  
Washington, D.C., 20234

Gentlemen:

We believe that this Product Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the  
production<sup>1</sup>                      distribution<sup>1</sup>                      purchase<sup>1</sup>                      testing<sup>1</sup>  
of this commodity.

We reserve the right to depart from the standard as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer \_\_\_\_\_  
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer \_\_\_\_\_

Organization \_\_\_\_\_  
(Fill in exactly as it should be listed)

Street address \_\_\_\_\_

City, State, and zip code \_\_\_\_\_

<sup>1</sup> Underscore the applicable words. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

(CUT ON THIS LINE)

## TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Product Standards are requirements which are voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of Product Standards is to establish, for specific items, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function, performed by the Department of Commerce in the voluntary establishment of Product Standards on a nationwide basis is fourfold: First, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory development of voluntary standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance of the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish the standard for the information and guidance of buyers and sellers of the product.

4. *Announcement.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold publication.